

What is claimed is:

1. A near field probe comprising:
 - an antenna having a first dipole and a second dipole for measuring an electromagnetic field, said antenna producing an electrical signal having an output voltage indicative of a field strength for said electromagnetic field;
 - a first diode having an anode connected to the first dipole of said antenna and a cathode connected to the second dipole of said antenna;
 - a second diode having an anode connected to the second dipole of said antenna and a cathode
 - a first capacitor having a first terminal connected to the cathode of said second diode and a second terminal, wherein said first diode, said second diode and said first capacitor double the output voltage of the electrical signal produced by said antenna;
 - a transmission line transformer having an electrical signal input connected to the cathode of said second diode and the second terminal of said first capacitor, said transmission line transformer isolating said electrical signal from ground providing a signal strength efficiency of

23 approximately ninety eight percent.

1 2. The near field probe of claim 1 wherein said first
2 diode and said second diode comprise Schottky diodes.

1 3. The near field probe of claim 1 further comprising
2 a second capacitor having first and second terminals connected
3 to an electrical signal output for said transmission line
4 transformer, said second capacitor operating as an alternating
5 current short circuit when said second capacitor is positioned
6 at the electrical signal output for said transmission line
7 transformer.

1 4. The near field probe of claim 3 further comprising a
2 third capacitor having first and second terminals connected to
3 the electrical signal output for said transmission line
4 transformer, said third capacitor integrating said electrical
5 signal and reducing noise within said electrical signal.

1 5. The near field probe of claim 3 wherein said second
2 capacitor is a twenty picofarad capacitor.

1 6. The near field probe of claim 4 wherein said third

2 capacitor is a 0.01 microfarad capacitor.

1 7. The near field probe of claim 1 further comprising a
2 load resistor connected to said transmission line transformer,
3 said load resistor having an impedance which varies from about
4 137 ohms to about 3.56 k-ohms.

1 8. The near field probe of claim 1 wherein said first
2 capacitor is a twenty picofarad capacitor.

1 9. The near field probe of claim 1 wherein said near field
2 probe provides an output voltage reading of 0.84 volts to 3.17
3 volts over a frequency range of 2212.5 MHz-2276.5 MHz when the
4 electromagnetic field generated by an antenna coupler being
5 tested has a power requirement of 1.7 watts

1 10. The near field probe of claim 1 wherein said near
2 field probe provides an output voltage reading of 2.15 volts to
3 5.40 volts over a frequency range of 2212.5 MHz-2276.5 MHz when
4 the electromagnetic field generated by an antenna coupler being
5 tested has a power requirement of 4.0 watts.

1 11. A near field probe comprising:

2 a dipole antenna having a first dipole and a second dipole
3 for measuring an electromagnetic field, said dipole
4 antenna producing an electrical signal having an
5 output voltage indicative of a field strength for
6 said electromagnetic field;

7 a first Schottky diode having an anode connected to the
8 first dipole of said dipole antenna and a cathode
9 connected to the second dipole of said dipole
10 antenna;

11 a second Schottky diode having an anode connected to the
12 second dipole of said dipole antenna and a cathode;

13 a first capacitor having a first terminal connected to the
14 cathode of said second Schottky diode and a second
15 terminal;

16 a transmission line transformer having an electrical
17 signal input connected to the cathode of said second
18 Schottky diode and the second terminal of said first
19 capacitor;

20 said first Schottky diode rectifying one half of said
21 electrical signal;

22 said second Schottky diode and said first capacitor
23 rectifying another half of said electrical signal
24 doubling the output voltage of the electrical signal

25 produced by said dipole antenna;
26 said transmission line transformer isolating said
27 electrical signal from ground providing a signal
28 strength efficiency of approximately ninety eight
29 percent; and
30 a second capacitor having first and second terminals
31 connected to an electrical signal output for said
32 transmission line transformer, said second capacitor
33 operating as an alternating current short circuit
34 when said second capacitor is positioned at the
35 electrical signal output for said transmission line
36 transformer.

1 12. The near field probe of claim 11 further comprising a
2 third capacitor having first and second terminals connected to
3 the electrical signal output for said transmission line
4 transformer, said third capacitor integrating said electrical
5 signal and reducing noise within said electrical signal.

1 13. The near field probe of claim 11 wherein said second
2 capacitor is a twenty picofarad capacitor.

1 14. The near field probe of claim 12 wherein said third

2 capacitor is a 0.01 microfarad capacitor.

1 15. The near field probe of claim 11 further comprising a
2 load resistor connected to said transmission line transformer,
3 said load resistor having an impedance which varies from about
4 137 ohms to about 3.56 k-ohms.

1 16. The near field probe of claim 11 wherein said first
2 capacitor is a twenty picofarad capacitor.

1 17. The near field probe of claim 11 wherein said near
2 field probe provides an output voltage reading of 0.84 volts to
3 3.17 volts over a frequency range of 2212.5 MHz-2276.5 MHz when
4 the electromagnetic field generated by an antenna coupler being
5 tested has a power requirement of 1.7 watts

1 18. The near field probe of claim 11 wherein said near
2 field probe provides an output voltage reading of 2.15 volts to
3 5.40 volts over a frequency range of 2212.5 MHz-2276.5 MHz when
4 the electromagnetic field generated by an antenna coupler being
5 tested has a power requirement of 4.0 watts.

1 19. A near field probe comprising:

2 a dipole antenna having a first dipole and a second dipole
3 for measuring an electromagnetic field, said dipole
4 antenna producing an electrical signal having an
5 output voltage indicative of a field strength for
6 said electromagnetic field;

7 a first Schottky diode having an anode connected to the
8 first dipole of said dipole antenna and a cathode
9 connected to the second dipole of said dipole
10 antenna;

11 a second Schottky diode having an anode connected to the
12 second dipole of said dipole antenna and a cathode;

13 a first capacitor having a first terminal connected to the
14 cathode of said second Schottky diode and a second
15 terminal, wherein said first capacitor is a twenty
16 picofarad capacitor;

17 a transmission line transformer having an electrical
18 signal input connected to the cathode of said second
19 Schottky diode and the second terminal of said first
20 capacitor;

21 said first Schottky diode rectifying one half of said
22 electrical signal;

23 said second Schottky diode and said capacitor rectifying
24 another half of said electrical signal doubling the

25 output voltage of the electrical signal produced by
26 said antenna;
27 said transmission line transformer isolating said
28 electrical signal from ground providing a signal
29 strength efficiency of approximately ninety eight
30 percent;
31 a load resistor connected to said transmission line
32 transformer, said load resistor having an impedance
33 which varies from about 137 ohms to about 3.56 k-
34 ohms; and
35 a second capacitor having first and second terminals
36 connected to an electrical signal output for said
37 transmission line transformer, said second capacitor
38 operating as an alternating current short circuit
39 when said second capacitor is positioned at the
40 electrical signal output for said transmission line
41 transformer, wherein said second capacitor is a
42 twenty picofarad capacitor.

1 20. The near field probe of claim 19 further comprising a
2 third capacitor having first and second terminals connected to
3 the electrical signal output for said transmission line
4 transformer, said third capacitor integrating said electrical

5 signal and reducing noise within said electrical signal, said
6 third capacitor being a 0.01 microfarad capacitor.